

Reply to the Office Action dated June 21, 2004

### **REMARKS**

Claims 1-4 and 6-25 are pending in this application. By this Amendment, claims 1, 6-8, 13, 19 and 22 are amended and claim 5 is canceled without prejudice or disclaimer.

Entry of this Amendment is proper under 37 C.F.R. §1.116 because the amendments: (1) place the application in condition for allowance, for the reasons discussed herein; (2) do not raise any new issues requiring further search and/or consideration; and/or (3) place the application in better form for appeal should an appeal be necessary. In particular, the amendment to claim 1 includes features of previous claim 5, and each of claims 7 and 8 are rewritten into independent form. The amendments to claims 6, 13 and 19 are merely for clarity and/or antecedent basis. Thus, no further search and/or consideration is necessary. Entry is proper under 37 C.F.R. §1.116.

The Office Action rejects claims 1-3 and 5-9 under 35 U.S.C. §102(e) by U.S. Patent 6,097,733 to Basu et al. (hereafter Basu). The Office Action also rejects claims 10, 11, 13-15, 17-20 and 22-25 under 35 U.S.C. §103(a) over Basu and further in view of U.S. Patent Publication 20020114301 to Yee et al. (hereafter Yee). The Office Action also rejects claims 4, 12, 16 and 21 under 35 U.S.C. §103(a) over Basu and further in view of Yee and U.S. Patent 5,960,039 to Martin et al. (hereafter Martin). The rejections are respectfully traversed with respect to the pending claims.

Independent claim 1 recites determining an occupied bandwidth of each of a plurality of channels of a transmission link occupied by other connected calls and dynamically allocating the data call among the plurality of channels based on the traffic attribute and the occupied

bandwidth. Independent claim 1 further recites that a mobile switching system subtracts an occupied channel bandwidth from a maximum allowable channel bandwidth to determine whether there is a minimum available bandwidth in each channel, and allocates the channel having the least occupied bandwidth if no channel has the minimum available bandwidth. Certain features of independent claim 1 were previously recited in claim 5.

Further, independent claim 7 recites determining an occupied bandwidth, dynamically allocating the data call and a mobile switching system allocates a channel having the least available bandwidth if a requested bandwidth of the data call is greater than a prescribed bandwidth and the channel having an available bandwidth exists.

Still further, independent claim 8 recites determining an occupied bandwidth, dynamically allocating the data call and a mobile switching system allocates a channel having the least occupied bandwidth if a requested bandwidth of the data call is smaller than a prescribed reference bandwidth and the channel having an available bandwidth exists.

Basu does not teach or suggest these features as alleged in the Office Action. The Office Action appears to assert (on pages 7 and 8) that the steps shown in Basu's Figure 7 correspond to the claimed features of determining an occupied bandwidth of each of a plurality of channels of a transmission link occupied by other connected calls. However, this is incorrect. That is, the alleged steps of Basu's Figure 7 do not teach or suggest determining an occupied bandwidth of each of a plurality of channels. Rather, as clearly shown in steps 710 and 728, a default level of multi-media bandwidth is allocated. Thus, there is no suggestion for determining an occupied

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bandwidth of each of a plurality of channels occupied by other connected calls, as recited in independent claim 1.

The Office Action also appears to rely on Basu's column 5, lines 10-25 as showing dynamically allocating the data call among the plurality of channels based on the traffic attribute and the occupied bandwidth. Still further, in addressing previous claim 5, the Office Action asserts that Basu teaches features regarding subtracting an occupied channel bandwidth from a maximum allowable channel bandwidth to determine whether there is a minimum available bandwidth in each channel, and allocates the channel having the least occupied bandwidth if no channel has a minimum available bandwidth. The Office Action references Basu's column 2, lines 33-47; column 3, line 38-column 4, line 2; and column 13, line 55-column 14, line 30. However, these sections do not relate to these claimed features. For example, Basu's col. 2, lines 33-47 relate to achieving a minimum transmission rate. Basu's col. 6, line 38-col. 4, line 2 relate to meeting a "grade of service." Additionally, Basu's col. 13, line 55-col. 14, line 30 relates to bandwidth shortfall. These do not teach or suggest the claimed features. As such, independent claim 1 defines patentable subject matter.

In addressing claim 7, the Office Action asserts that Basu's column 2, lines 33-47, column 3, line 38-column 4, line 2, column 7, lines 10-30, and column 13, line 55-column 14, line 30 teaches the claimed features. However, these sections do not relate to allocating a channel having a least available bandwidth if a requested bandwidth of a data call is greater than a prescribed bandwidth and the channel having an available bandwidth exists. That is, these sections do not relate to a least available bandwidth if a requested bandwidth of the data call is

greater than a prescribed bandwidth and the channel having an available bandwidth exists. Thus, independent claim 7 defines patentable subject matter at least for this reason.

In addressing claim 8, the Office Action asserts that Basu teaches the claim 8 features. However, the Office Action does not appear to address any specific section of Basu. Basu does not teach or suggest all the features of independent claim 8 relating at least to allocating a channel having the least occupied bandwidth if a requested bandwidth of the data call is smaller than a prescribed reference bandwidth and the channel having an available bandwidth exists. Thus, independent claim 8 defines patentable subject matter at least for this reason.

Independent claim 11 recites defining a weight value of the data call in accordance with the requested bandwidth and dynamically allocating an  $H_0$  channel on the EI link based on a number of connected data calls occupying each of a plurality of  $H_0$  channels and the weight value of each connected data call. In addressing these features, the Office Action appears to rely on Basu's column 12, lines 26-65 and column 13, line 55-column 14, line 30 to show defining the weight value of a data call in accordance with the requested bandwidth. The Office Action also appears to rely on Basu's column 2, lines 33-47; column 3, line 38-column 4, line 2; column 13, line 55-column 14, line 30; and column 6, lines 23-65 to show the claimed features of dynamically allocating the channel based on the number of connected data calls occupying each of a plurality of channels and the weight value of each connected data call. However, Basu does not relate to defining a weight value of a data call or dynamically allocating a channel based on a number of connected data calls and the weight value of each connected data call. Yee does not

teach or suggest these missing features. Thus, independent claim 11 defines patentable subject matter at least for this reason.

Still further, independent claim 18 recites analyzing previously connected data calls and a weight value of each previously connected data call to compute a bandwidth occupied by the previously connected data calls, subtracting the occupied bandwidth from a maximum allowable bandwidth for each of a plurality of channels to determine whether available bandwidth exists in each channel, and variably allocating channels from among the plurality of channels according to availability of a minimum bandwidth. In addressing these features, the Office Action does not even address the features regarding subtracting the occupied bandwidth from a maximum allowable bandwidth for each of a plurality of channels to determine whether available bandwidth exists in each channel and variably allocating channels from among the plurality of channels according to the availability of a minimum bandwidth. As such, the Office Action fails to make a *prima facie* case of obviousness with respect to independent claim 18.

For at least the reasons set forth above, each of independent claims 1, 7, 8, 11 and 18 define patentable subject matter. Claims 2-4, 6, 9 and 10 depend from claim 1, claims 12-17 depend from claim 11, and claims 19-25 depend from claim 18 and therefore define patentable subject matter at least for this reason.

In addition, the dependent claims recite features that further and independently distinguish over applied references. For example, dependent claim 13 recites determining whether the requested bandwidth is greater than a reference bandwidth, computing a bandwidth occupied by the connected data calls, subtracting the occupied bandwidth from a maximum

allowable bandwidth for each  $H_0$  channel, to determine whether any available bandwidth exists in each  $H_0$  channel, and allocating an  $H_0$  channel having the least occupied bandwidth if no  $H_0$  channel exists.

Furthermore, dependent claim 14 recites allocating a  $H_0$  channel having the least available bandwidth if the requested bandwidth is greater than the reference bandwidth and a  $H_0$  channel having available bandwidth exists, and allocating a  $H_0$  channel having the least occupied bandwidth if the requested bandwidth is smaller than the reference bandwidth and a  $H_0$  channel having available bandwidth exists. Still further, dependent claim 19 recites allocating the channel having the least occupied bandwidth if no channel exists with minimum bandwidth, allocating the channel having the least available bandwidth if the requested bandwidth is greater than the reference bandwidth, and a channel having the minimum available bandwidth exists, and allocating the channel having the least occupied bandwidth if the requested bandwidth is smaller than the reference bandwidth and the channel having the minimum available bandwidth exists. The applied references do not teach or suggest the features of at least these dependent claims.

For at least the reasons set forth above, each of claims 1-4 and 6-25 define patentable subject matter. Withdrawal of the outstanding rejections is respectfully requested.

### **CONCLUSION**

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Favorable consideration and prompt allowance of claims 1-4 and 6-25 are earnestly solicited. If the Examiner believes that any additional changes would place the

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application in better condition for allowance, the Examiner is invited to contact the undersigned attorney, **David C. Oren**, at the telephone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,  
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